

## CLAIMS

**1. A methanol-reforming catalyst, characterized by containing an intermetallic compound  $\text{Ni}_3\text{Al}$ .**

**2. The methanol-reforming catalyst according to Claim 1, characterized by containing the intermetallic compound  $\text{Ni}_3\text{Al}$  and coexistent components, wherein the contents of Ni and Al are respectively 77 to 95 % and 5 to 23 % with respect to the total element composition (wt %) including the coexistent components.**

**3. The methanol-reforming catalyst according to Claim 1 or 2, characterized by being a powder or granule prepared by machining and mechanically polishing a melt-prepared ingot or in an atomization process.**

**4. The methanol-reforming catalyst according to Claim 1 or 2, characterized by being a cold-rolled foil prepared in cold-rolling method by using a  $\text{Ni}_3\text{Al}$  alloy prepared by unidirectional solidification method.**

**5. The methanol-reforming catalyst according to any one of Claims 1 to 4, wherein carbon nanofibers containing metal fine particles are deposited on the surface thereof.**

**6. The methanol-reforming catalyst according to Claim 5, wherein the metal fine particles are fine particles of at least one of the metals of Ni and  $\text{Ni}_3\text{Al}$ .**

**7. The methanol-reforming catalyst according to any one of Claims 1 to 6, characterized by being alkali or acid treated.**

**8. A methanol-reforming method by using the catalyst according to any one of Claims 1 to 7, characterized in that hydrogen is produced by bringing methanol or a liquid mixture of methanol and water into contact with the catalyst.**

**9. The methanol-reforming method according to Claim 8, wherein the methanol or the liquid mixture of methanol and water is brought into contact with the catalyst that is previously subjected to a hydrogen reduction treatment.**